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ABSTRACT

This doctoral dissertation compares the self-concept of people with visual impairments with that of normally sighted individuals in 14 studies from various geographical regions in the United States. Discussion of methodological issues examines first, definitions regarding the self (self-image, self-perception, self-evaluation, self-esteem, self-concept); second, definitions of visual impairment (legal and educational definitions); third, instruments (the Student's Self-Assessment Inventory, the Tennessee Self-Concept Scale, and the Piers-Harris Children's Self-Concept Scale); and fourth, samples and procedures. The review of the literature evaluates individually each of 14 studies published between 1959 and 1996. The studies generally found no significant differences between the self-concepts of people with visual impairments and normally sighted individuals, although some studies did find such differences and others found differences related to gender or interventions. Suggestions for future research focus on the need for consistent and concise terminology. (Contains 29 references.) (DB)

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VISUAL IMPAIRMENT AND ITS EFFECT ON THE DEVELOPMENT OF THE SELF-CONCEPT

A Doctoral Research Paper

Presented to

the Faculty of the Rosemead School of Psychology

Biola University

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Psychology

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by

R. Brian Gish

August, 2002

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ABSTRACT

VISUAL IMPAIRMENT AND ITS EFFECT
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R. Brian Gish

Researchers compared self-concept in visually-impaired individuals to that of normally-sighted individuals in a number of studies from different geographical regions across the United States. These studies were undertaken in an attempt to determine if differences in self-concept exist between these populations, and if so, what factors might account for these differences. Most studies reviewed concluded that no significant differences exist between the two populations in terms of self-concept.

VISUAL IMPAIRMENT AND ITS EFFECT

ON THE DEVELOPMENT OF

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VISUAL IMPAIRMENT AND ITS EFFECT ON THE DEVELOPMENT OF THE SELF-CONCEPT

Introduction

A range of opinions exists regarding how visually-impaired persons fare in regard to self-concept as compared with normally-sighted persons. Some purport that vision loss is simply a deprivation of sight with little or no adverse impact, whereas others hold the position that normal social development is impossible under such conditions. The researchers who produced the body of literature reviewed in this paper conducted their studies with the general assumption that there is a significant difference between the self-concept of the visually-impaired and that of normally-sighted individuals.

This review of the literature will begin with a discussion of various methodological issues, including the inconsistency of terminology, commonly used instrumentation, sampling procedures, and research methods. A discussion of research findings will be presented along with evaluation of strengths and limitations of the

studies. Finally, implications of the research findings and suggestions for future research will be presented.

Methodological Considerations

Several methodological issues need to be addressed in reviewing the studies that have explored the effect that visual impairment has on the development of individual self-concept. Relevant terminology, instruments, sampling, and procedures will be discussed prior to the review of the literature.

Definitions Regarding the Self

Differences in terminology regarding self-concept, both across and within the studies surveyed, are readily apparent. Not consistently defined as a clearly distinct concept within the literature, the term *self-concept* is frequently used synonymously or interchangeably with other terms: self-image, self-perception, self-evaluation, and self-esteem. Following the definition of these secondary terms, therefore, a definition of self-concept as used in this paper will be provided.

Self-image. Coopersmith (as cited in Cook-Clampert, 1981) provided the foundation for a definition of self-image; This concept can be thought of as "… the evaluation

which the individual makes and customarily maintains with regard to himself; it expresses an attitude of approval or disapproval and indicates the extent to which the individual believes himself to be capable, significant, successful, and worthy" (Cook-Clampert, p. 233). It should be noted, however, that the author's use of *self-esteem* in the definition of self-image tends to confuse rather than clarify its meaning.

Self-perception. According to Head (1980), self-perception refers to the internalizations of significant others' perceptions of oneself.

Self-evaluation. Although no distinct definition was given in the studies reviewed, self-evaluation is a process of affective assessment of how one believes himself or herself to be.

Self-esteem. Self-esteem refers to the valuation of how an individual feels about his or her self-concept in positive or negative terms (e.g., satisfaction or dissatisfaction; King, 1997).

Self-concept. Though widely used in psychological literature, self-concept is a complex and elusive idea whose application is broad and inexact. The confusion between definitions of self-image and self-esteem as noted

above is a glaring example of terminology issues found within self-concept research. As King (1997) stated, "There is much confusion regarding each term's appropriate use. Specific definitions are necessary for researchers to provide a good knowledge base for educators to work from" (p. 1). Therefore, a lack of clarity regarding basic terminology leads to confusion regarding what is actually being measured in these studies.

Although attempts have been made to more clearly define the term, a standardized definition has yet to emerge. Obiakor (1986) offered a somewhat helpful definition of self-concept as "the individual's repertoire of self-descriptive behaviors. Such self-descriptions can be accurate or inaccurate, consistent or contradictory, extensive or limited, covert or overt and sometimes change as the context changes" (p. 7). For the purposes of this paper, however, the present author defines self-concept as the perceptions and beliefs an individual has regarding his or her personal attributes and the personal roles assumed as a consequence of these perceptions and beliefs. Self-concept is simply a description of the perceived self without value judgments. Thus, self-concept is not categorized as positive or negative. These valuations may

be more appropriately incorporated within the definition of self-esteem.

Definitions of Visual Impairment

Another complication involves definitions of visual impairment. In recent years the government and other agencies have created more descriptive guidelines regarding the parameters of visual impairment to include visual acuity and width of the visual arc. These guidelines were an outgrowth of legislation, which assumes that blindness encompasses a range of visual impairments (Sattler, 1990). Legal blindness, to be detailed later, serves as a qualifier in determining eligibility for certain types of public assistance and as a general benchmark for ascertaining appropriate placement within the educational system. Additionally, educators themselves have developed operational guidelines regarding what visual impairment entails and how it should be addressed for the benefit of students. Therefore, in order to clarify commonly used terminology, the following legal and educational definitions are provided.

Legal definitions of visual impairment. In order to meet criteria of legal definitions of visual impairment, individuals must undergo assessment of both visual acuity

and visual field. *Legal blindness* requires (a) a visual acuity of 20/200 or less in the better eye with best possible correction (eyeglasses or contact lens) or (b) a visual field that subtends an angular distance or arc of 20 degrees or less in the better eye (Hallahan & Kauffman, 2000).

Visual acuity is defined by a fraction that is a comparison between the distance at which one can actually see an object clearly and the distance at which someone with normal vision would be able to see the object clearly. Therefore, a person with 20/200 visual acuity can see an object clearly at a distance of 20 feet that a normally sighted person can see at a distance of 200 feet. Although significant limitations in visual field may also qualify one as legally blind, this limited peripheral vision need not be coupled with poor visual acuity. Therefore, even with 20/20 vision, one may still qualify as legally blind due to visual field deficits (Hallahan & Kauffman, 2000).

In addition to blindness, legal definitions of visual impairment include *partially-sighted*. Criterion for this classification is a visual acuity of 20/70 to 20/200 in the better eye with best possible correction (Hallahan & Kauffman, 2000).

Educational definitions of visual impairment. Educators have found that the legal classifications of visual impairment are not good predictors of academic success. That is, visual acuity alone does not accurately reflect how the individual functions or uses remaining sight. Hallahan and Kauffman (2000) stated that the educational definition of *blindness* is applicable to those individuals who "are so severely impaired that they must learn to read Braille or use aural methods" (p. 388). In addition, the term *low vision* is applicable to those individuals who are able to read printed material in large print or using some form of magnification.

As can be seen, there has been an evolution in how visual impairment is conceptualized even though some variability still exists with respect to the setting in which a given definition may be applied.

Instruments

Another methodological consideration is that of the instrumentation used to assess self-concept in the studies reviewed. A majority of the studies reviewed utilized instruments specifically designed to gather subjective self-report information about individuals' self-concepts through their descriptions of themselves. The most

frequently used instruments were the Student's Self-Assessment Inventory (Muller, Larned, Leonetti, & Muller, 1984, 1986), the Tennessee Self-Concept Scale (Fitts, 1965), and the Piers-Harris Children's Self-Concept Scale (Piers & Harris, 1976). All three measures discussed in this section provide good conceptual reliability and concurrent validity. Other instruments will be presented in the context of the study in which each was utilized.

Student's Self Assessment Inventory. The Student's Self-Assessment Inventory (SSAI; Muller et al., 1984, 1986) was designed to evaluate self-concept in an academic environment for students in the 1st through 9th grades. The test is administered orally in a group setting to assess the following aspects of self-concept as they relate directly to school performance: self-knowledge (how one perceives himself or herself), self-esteem (how one feels about his or her self-perception), and self-ideal (how one would like to be). Respondents are asked to reflect on four specific areas (physical maturity, peer relations, academic success, and school adaptiveness), thereby providing data for 12 area-specific indices.

The two forms, the General Form and the Visually-Impaired Form, of the SSAI are both administered orally,

thereby making it appropriate for use with students regardless of their level of reading ability. The General Form, which uses both illustrations and read-aloud stories, was developed for use with normally-sighted children in a regular classroom setting. The Visually-Impaired Form was derived through several modifications of the General Form. The primary difference between the two forms is that the Visually-Impaired Form is comprised of modified versions of the stories that do not require visual representations. Furthermore, test items are presented orally so that performance is not affected by the respondent's reading ability. Although the method for recording answers has also been modified in the Visually-Impaired Form, the test content and sequence of items presented are identical to that of the General Form (Muller et al., 1984, 1986).

SSAI General Form scores have proven to be highly correlated (.72) with the Piers-Harris Children's Self-Concept Scale (Piers & Harris, 1976), which indicates good concurrent validity. Test-retest reliability of the SSAI has ranged from .51 to .86, which indicates moderate to high reliability. Since the Visually-Impaired Form has only been used for the study reviewed in this paper, validity and reliability information is only available for the

General Form. Therefore, scores obtained by using the Visually-Impaired Form must be interpreted with caution because the differences in its administration are a departure from standardized procedures established in norming the original instrument (Muller et al., 1984, 1986).

Tennessee Self-Concept Scale. The Tennessee Self-Concept Scale (TSCS; Fitts, 1965) was by far the most frequently utilized scale in the studies reviewed. The TSCS is available in Counseling (for use with nonclinical populations) and Clinical Research (for use with clinical populations) forms. It is relatively easy to administer: Respondents rate each self-statement on a 5-point, Likert-type scale with responses ranging from *completely false* to *completely true*.

The TSCS does not place the visually-impaired individual at a disadvantage because it can be presented in large print, in Braille, or by audiotape. Responses can also be recorded in Braille if necessary. Most researchers used the Counseling Form, which consists of 100 self-descriptive statements that portray the ways and degree to which the individual perceives himself or herself (Fitts, 1965).

The five subscales of the TSCS reflect different areas of self-concept: the Physical Self (physical appearance, skills); the Moral-Ethical Self (sense of moral worth, feelings of being good or bad); the Personal Self (self-worth, psychological traits/characteristics); the Family Self (self in relationship to one's primary social group); and the Social Self (self in relationship to secondary social groups). These domains are evaluated in the context of (a) Identity (beliefs about the actual self); (b) Self-satisfaction (degree of self-acceptance); and (c) Behavior (actions and responses; Fitts, 1965).

The Total Positive Score is the most critical in determining the level of self-concept. The instrument was normed on psychiatric and nonpsychiatric populations, and significant differences were found between the two groups. Intercorrelations between subscale scores and Total Positive Score ranged from .75 to .90, and test-retest reliability ranged from .85 to .92, which suggests excellent reliability (Fitts, 1965).

Piers-Harris Children's Self-Concept Scale. The Piers-Harris Children's Self-Concept Scale (PHCSCS; Piers & Harris, 1976) is also known as "The Way I Feel About Myself." The PHCSCS is a self-report inventory comprised of

80 first-person statements to which the respondent answers *yes* or *no*. The test was designed for use with children (ages 8 - 18 years or 3rd - 12th grades), is administered individually or in a group, and requires approximately 25 minutes to complete. The PHCSCS may also be given orally, which makes it appropriate for use with the visually impaired. The user's manual provides information on its use with different populations (e.g., persons with disabilities, persons with different ethnic backgrounds). Since the PHCSCS may be given orally, it is appropriate for use with visually-impaired children.

The PHCSCS raw score total can be converted to stanines, percentiles, or to T-scores, yielding either an overall self-concept score or a profile of 6 cluster scores: (a) Behavior, (b) Intellectual and School Status, (c) Physical Appearance and Attributes, (d) Anxiety, (e) Popularity, (f) Happiness and Satisfaction. This instrument has continued to be used with the original 1960s norms established on 1,183 4th- through 12th-grade students from one school district in Pennsylvania. Recent reliability studies, however, have generally confirmed the original findings regarding the PHCSCS (Mitchell, 1985).

Test-retest reliability coefficients have been in the moderate to good range (.42 - .96; M = .73), and internal consistency coefficients have ranged from .88 to .93 for the total scale. Since the internal consistency coefficient for the original norm group was .90 for the total scale, the PHCSCS appears to be internally consistent and stable over time (Mitchell, 1985). Nevertheless, it may be advisable to use caution in generalizing findings to the ethnically diverse populations of subsequent decades.

The instrumentation was both a strength and a weakness of these studies. Many researchers employed the same assessment tools (e.g., SSAI, TSCS, PHCSCS), which provided intercorrelated data that yielded good concurrent validity, consistently revealing similar results. Nevertheless, these self-concept measures are all self-report instruments. The subjective nature of such measures calls into question the reliability of results due to the possibility of emerging response sets (e.g., positive self-representation).

Samples and Procedures

Several methodological issues need to be addressed regarding samples and procedures. These issues, which will be discussed in detail, include the following: the low incidence of visual impairment in children, the demographic

homogeneity of study participants, the educational milieu, the use of control groups, the exclusion of students with other impairments, statistical procedures, and the lack of an adequate operational definition of self-concept.

First, the incidence of visual impairment in children is quite low. Hallahan and Kauffman (2000) reported that "most estimates indicate that blindness is approximately one-tenth as prevalent in school-age children as in adults" (p. 388). The federal government classifies only about .05% of 6- to 17-year-olds as visually impaired. This low incidence is problematic because it restricts the number of children potentially available to participate in empirical research. Although sample sizes were limited, they were adequate to achieve statistical significance in most studies reviewed.

A broad range of participants by age (8 - 20 years) was represented in the studies. Generally, participants were well matched on important demographic variables (e.g., age, grade level, level of intelligence, gender). By keeping the samples as homogeneous as possible, researchers were able to control for potentially confounding variables. However, matching based on ethnicity was not a frequent consideration. Therefore, potential implications for cross-

cultural issues regarding the self-concept of visually-impaired children were not addressed by any of these studies.

Although various ethnic groups were under-represented, samples were selected from various regions of the United States. Students from a variety of educational settings were included in the studies. Participants were selected from the following traditional and well-established academic programs designed to serve the needs of visually-impaired students: (a) residential schools for the blind, (b) public schools with locally based resource programs or resource rooms that support and tutor students from mainstream classrooms, and (c) programs with itinerant teachers who provide direct educational support and mobility-training services to students placed in a regular classroom.

Control groups were not always included in the studies reviewed. Frequently, researchers used the norm groups for the instruments used as a means of comparison. When a control group was included in the study, however, researchers selected its members from among normally-sighted participants in the same milieu from which the visually-impaired students were selected. Control group

participants were randomly chosen from these settings, thereby providing additional statistical power to research findings.

A marked strength of the studies reviewed is that selection of participants was restricted to students whose only apparent issues were their visual impairments. By eliminating children who had additional physical, mental, or emotional problems, researchers were able to control for other potentially confounding variables. Although these conditions offered promise for the generalizability of results within the educational environment, caution should be exercised in applying findings to other conditions or settings.

Another overall strength of findings is the consistency of results obtained over the 40-year period during which this body of research was developed. The principle experimental approach was inferential. Analyses of variance (ANOVAs) were the most predominantly used statistical procedure, which provide good statistical power.

Finally, and as previously mentioned, caution is advised in regard to the underlying theoretical construct of self-concept. An understanding of self-concept is still

being developed; therefore, this construct lacks a clearly articulated operational definition. Consequently, caution should be exercised in drawing conclusions regarding these findings.

Review of the Literature

Empirical studies examining the relationship between self-concept and visual impairment have a history spanning nearly 4 decades. However, relatively little insight has been gained regarding the potential impact visual limitations have on the development of one's self-concept. The problems and limitations inherent in defining the primary constructs themselves appear to undermine the validity and reliability of the research as a whole. The following is a chronological review of studies that explored self-concept and related variables among visually-impaired individuals.

Jervis: 1959

In an early study, Jervis (1959) evaluated a group of 20 visually-impaired students from two residential schools for the blind. Each participant had been totally blind since his or her 3rd birthday and was currently between 15 and 19 years of age. A second group of 20 sighted

individuals matched on age, IQ, gender, and socioeconomic status comprised the control group. All adolescents were of average intelligence and demonstrated no emotional problems requiring treatment.

Each adolescent was scheduled for a series of three interviews that were conducted 1 week apart. The purpose of the first two interviews was to obtain qualitative indices of self-concept. Qualitative data collected during the interviews was divided into stimulus units (responses that followed a specific question from the interviewer). The interviews included questions such as "How would you describe yourself to a stranger?" and "How do you feel about the future?" Analysis revealed positive mean scores on self-concept for both the experimental and control groups (0.08 and 1.20, respectively) although interrater reliability was quite low (.65; Jervis, 1959).

In the third interview, participants completed a card-sort task as a quantitative measure of self-concept. Cards with 100 self-descriptive statements were sorted twice by each participant. Cards were placed in one of five trays corresponding to one of the following evaluations: *seldom, occasionally, half the time, more than half the time,* or *frequently*. In the first sort, participants were required

to place cards in a tray to indicate how they felt about themselves (actual self-concept). The second sort was to indicate how participants would like themselves to be (ideal self-concept). Tallies of each sort yielded a discrepancy score that suggested a measurement of self-concept. Due to the uneven distribution of discrepancy scores, chi-square statistics were utilized to evaluate the Q-sort data. Results indicated no significant differences in self-concept between the experimental and control groups ($p < .05$).; Jervis, 1959).

The findings of Jervis's (1959) study indicated that there was little difference between the self-concepts of visually-impaired and sighted groups. However, the results obtained were based on self-report measures that have questionable reliability because of the potential for response sets based on psychological defenses (e.g., consistently positive or negative responses). In addition, the small sample size provided limited reliability. Consequently, the results of this study should be examined and interpreted with care.

Zunich and Ledwith: 1965

Hypothesizing that having positive personal traits is negatively correlated with personal anxiety, Zunich and

Ledwith (1965) compared the self-concepts of 58 students from the 4th-grade (ages 8.9 - 9.7 years). The 29 students who comprised the experimental group were either congenitally blind or had retrolental fibroplasia, a condition that affects premature infants who have been exposed to oxygen-excessive environments needed to sustain life.

Participants completed the Lipsitt's scale (1958), designed to measure self-concept as personal traits or qualities that are either positively or negatively valued by culture and that induce lesser or greater amounts of personal anxiety. This scale consists of 22 trait-descriptive "I am" statements with 1 of 19 positive trait descriptors (e.g., friendly, happy, kind, brave, honest, likeable) or 3 negative trait descriptors (lazy, jealous, bashful). Non-impaired students were given the test in their classrooms, whereas the scale was recorded on audiotape and presented to the visually-impaired students in small groups. These students then recorded their own answers in Braille or by underlining/circling large print response forms as appropriate for their individual level of impairment. Positive self-concept responses were scored on a 5-point scale ranging from 1 (*not at all*) to 5 (*all the*

time), and negative concepts were inversely scored from 1 (*all the time*) to 5 (*not at all*). Due to the small sample size, *t*-tests were used to examine group differences (Zunich & Ledwith, 1965).

Although Zunich and Ledwith (1965) found little overall difference in the way visually-impaired and normally-sighted students rated themselves in regard to self-concept, they found significant gender differences between the responses of the two groups. Visually-impaired girls tended to rate themselves higher than did normally-sighted girls, whereas visually-impaired boys rated themselves lower than did their normally-sighted counterparts. Of the 22 self-concept traits, however, only 5 showed significant differences between the visually-impaired and normally-sighted groups. Visually-impaired girls rated themselves higher in regard to being friendly and happy ($p = .01$) and honest and likeable ($p = .05$) than did the sighted girls. The only difference for boys, however, was in regard to popularity in that the visually-impaired boys rated themselves significantly lower ($p = .05$) than did the sighted boys.

Caution should be exercised in applying the results obtained by Zunich and Ledwith (1965) because no validity,

reliability, or normative data are available for Lipsitt's self-concept scale. In addition, the definition of self-concept included valuations that may apply more appropriately to the concept of self-esteem and are, therefore, beyond the definition of self-concept as set forth for the purposes of this paper.

Nevertheless, one possible explanation for gender differences in scores on Lipsitt's scale may be the issue of socialization. The higher scores for impaired girls may be due to girls being socialized to engage in more intimate relationships and affiliations. In light of the increased legitimate dependency on support, increased trust in others in the environment may also lead to increased self-esteem. Conversely, higher scale scores for non-impaired than for impaired boys may be related to the cultural expectation that boys be more independent and competitive. This may leave impaired boys feeling more isolated, under-supported, and possibly feeling shame for needing additional support, thus leading to lower self-esteem. Also, the American society of the early 1960s was not as inclusive with regard to those with characteristics that set them apart from the mainstream culture, and additional pressure that may have added to the burden of a disability, particularly for boys.

Finally, caution should be used in interpreting these results due to the subjective nature of the measurement tool, the small number of participants, and the ensuing limitations in regard to their statistical power.

Meighan: 1971

Meighan (1971) posited that self-concept formation is primarily an outgrowth of the quality of interpersonal interactions one has with significant others (e.g., parents, extended family, friends). He hypothesized that a disability such as visual impairment is likely to have a distinct impact on personality development and self-concept evolution due to the individual's restricted perceptions during interpersonal interactions. In addition, society's response to those who are blind or have restricted vision may affect the way visually-impaired persons perceive themselves. This may be especially true if the cultural response is one of pity that leads to treating these persons as unfortunate and inferior, rather than offering appropriate support that facilitates healthy self-concept development. These interpersonal and cultural concerns provided the impetus for this study of self-concept profile and personality variables of visually-impaired adolescents.

Hoping to enhance and further the American understanding, acceptance, and inclusion of visually-impaired students, Meighan (1971) selected 203 students (14-20 years of age) with visual impairments (120 blind, 83 partially-sighted) from urban and rural areas of Maryland, New York, and Pennsylvania. The sample was equal in regard to gender (101 boys, 102 girls) and relatively diverse (39 African-American, 164 Euro-American; Jewish, Catholic, and Protestant). All socioeconomic status levels were represented, and participants' IQs reportedly ranged from 90 to 130. Participants completed the appropriate version (Braille or large-print) of the TSCS at the Maryland School for the Blind (n = 90), the Lavelle School for the Blind (n = 25), or the Overbrook School for the Blind (n = 88).

Results of Meighan's (1971) study revealed that the self-concepts of this sample of visually-impaired adolescents were significantly more negative than were the self-concepts of the TSCS norm group. All basic dimensions of self-concept as measured by the TSCS were quite negative, ranging from 10.47 to 64.30 ($p < .01$) with lowest ratings on the identity dimension. These data suggest that visually-impaired adolescents have self-concepts that

deviate significantly from their normally-sighted counterparts.

Also notable in Meighan's (1971) findings is the unusual degree of homogeneity among individual dimensions on each visually-impaired profile. No significant differences were found among individual subgroups (e.g., gender, ethnicity, degree of visual impairment). Meighan concluded that a visually-impaired child's negative self-concept is developed, at least in part, as a function of

> society's fixed ideas and thinking and not the result of something within the personality structure of the blind and visually handicapped themselves. Their unique self-concept is the result of what Harry Stack Sullivan said was "the reflected appraisal of significant others" (p. 31).

That the identity dimension yielded the lowest score may be suggestive of developmental issues (e.g., Erikson's identity vs. role diffusion stage of psychosocial development, as cited in Meighan, 1971). Visual impairment may impede the ability to develop a clear sense of who or what one is or should be in terms of cultural expectations. This factor needs further consideration when attempting to generalize the findings of this study. Although this

study's sample size was quite adequate, the statistical methods (*t* tests) employed have limited statistical power, and generalizations from these findings must be extrapolated cautiously.

Smith: 1972

Investigating the effects of adjustment on visually-impaired students in the first year of college, Smith (1972) assessed the self-concept of 45 high-school graduates (19 men, 26 women) upon entering college. Comparisons were made between *persisters*, students who subsequently completed their freshman year, and *nonperisters*, students who subsequently dropped out of college during their first semester. Participants were 18 to 28 years of age and were solicited from 33 institutions of higher learning in 12 states. They were also sponsored by state vocational rehabilitation agencies and had attended either public high schools (n = 19) or state schools for the blind (n = 26). Their average Verbal IQ was 115 (as measured by the Wechsler Adult Intelligence Scale; Wechsler, 1955), and they were primarily from middle-class families (semi-skilled workers through upper management).

Participants' self-concept was assessed by the TSCS and a semantic differential scale, which this researcher

based on the work of Osgood, Suci, and Tannebaum (as cited in Smith, 1972) and developed for use with visually-impaired persons. Smith's scale is comprised of nine sets of adjectives used to evaluate nine interpersonal or environmental domains (myself, college, my roommate, blind students, my classes, people who help me, my college room, students who see, professors). Adjectives sets are divided into three basic dimensions as follows: (a) evaluative (good/bad, pleasant/unpleasant, meaningful/meaningless, optimistic/pessimistic, important/unimportant); (b) potency (strong/weak and tenacious/yielding); and (c) activity (active/passive and simple/complex).

Results of *t* tests revealed that students who completed the first year of college had significantly healthier self-concepts than those who did not finish the first year. Twenty-nine percent of the nonpersisting group scored significantly lower ($p < .05$) on a number of self-concept scales. Overall, this group demonstrated (a) more yet poorer psychological defenses, (b) more confusion or conflict regarding self-perception, (c) lower self-esteem, (d) a more variable or inconsistent self-concept, (e) a more uncertain self-image, (f) more deviant or maladjusted tendencies, and (g) lower tolerance for frustration and

stress than did the persisting group. Although this study revealed significant within group differences among 1st-year, visually-impaired students, Smith (1972) failed to include normally-sighted students as a control group. Therefore, the usefulness of his findings are limited in regard to the comparison of self-concept between those with and without visual impairment.

Coker: 1979

Coker (1979), Principal of the Tennessee School for the Blind, examined the relationship among school placement, academic achievement, and self-concept in visually-impaired students. He selected 40 students from an original sample of 80 visually-impaired students in 3rd through 6th grades in the Southeastern and Midwestern regions of the U.S. The original sample was stratified to represent the number of large print and Braille readers in the general population, then separated into two groups of 20. One group attended regular classes, and the other attended a residential school for the blind. Participants ranged in age from 8 to 13 years, were of average intelligence, and were enrolled in standard academic programs. They had no disabling conditions in addition to their classification as legally blind.

Students completed the PHCSCS, and Coker (1979) analyzed the data using the chi-square technique. Although some differences on individual test items were revealed between the two groups, findings suggested that visually-impaired children's self-concept was positive overall, regardless of the school setting. Furthermore, results indicated that all participants were generally happy and currently experiencing a significant degree of self-satisfaction. Limitations of this study are its marginal sample size and restricted geographical regions of participant selection. In addition, caution must be exercised in interpreting results due to the study's lack of a clear, comprehensive definition of self-concept.

Head: 1979

Head (1979) also hypothesized that type of classroom placement has an affect on self-concept development for visually-impaired adolescents. He evaluated 62 blind and low-vision students in 7th through 12th grades. Each participant was involved in one of three approaches to teaching visually-impaired students: residential school (Little Rock, Arkansas); resource room (Las Vegas, Nevada); itinerant services (plains of Colorado). Participants represented two visual impairment categories (low vision

and blind) as well as several different ethnic categories (European American, African American, Asian American, and Hispanic American). All participating students were performing at an average academic level and had no other known physical or mental disadvantages.

Students completed the TSCS, and data were evaluated utilizing a 2 X 3 ANOVA statistical approach (vision X academic approach). Results revealed no significant differences in self-concept between groups as a function of academic placement and vision limits, although mean scores were slightly lower for students receiving itinerant services. Moreover, the data indicated that the two visually-impaired groups were comparable to the TSCS normative group, which contradicts findings of Meighan (1971). No definitive explanation was offered for the variation in outcomes other than possible differences in sampling procedures (Head, 1979).

Head: 1980

Expanding on his earlier research, Head (1980) further analyzed the data from his 1979 investigation to evaluate adolescent self-concept stability between junior and senior high school. The purpose of this study was to see if a difference in grade level affected self-concept of

visually-impaired (blind or low vision) students. Participants were divided into two groups: (a) 7th through 9th grades and (b) 10th through 12th grades. Utilizing a 2 X 2 ANOVA (vision X grade level) revealed no significant differences in self-concept between the two groups.

Locke and Gerler: 1981

Locke and Gerler (1981) examined the usefulness of affective education as related to self-image, school attitude, and classroom behavior. They selected 36 residential-school children from kindergarten through 3rd grade at the Governor Morehead School for the Blind in Raleigh, North Carolina. The sample was randomly divided into the following 3 training groups that met 3 times per week for 15 weeks: the Human Development Program (HDP) group, the Developing Understanding of Self and Others (DUSO) group, and a control group. The HDP and DUSO groups were engaged in affective training, whereas the control group listened to stories and played group games during their sessions.

The Self-Appraisal Inventory-Primary Level (Instructional Objectives Exchange, 1972) was used to evaluate self-concept at the beginning and end of the project. This instrument, consisting of 36 items read aloud

to children, provides a total self-appraisal score as well as subscale information regarding self-perception in group, family, peer, and school environments. Findings showed small, positive gains in self-concept in the HDP and DUSO groups. However, the control group showed a slightly negative change in scores related to the school environment. ANOVA statistics failed to show significance in regard to changes in self-concept. Findings of this study (Locke & Gerler, 1981) suggest that affective education enhances self-concept in visually-impaired children to a small degree. Nevertheless, external validity and generalizability is restricted due to limitations of the sample.

Loeb and Sarigiani: 1986

Loeb and Sarigiani (1986) investigated the effects of hearing impairment on self-concept, comparing visually-impaired and non-impaired students selected from 33 public schools in the metropolitan area of Detroit, Michigan. Participating schools used mainstream education programs for hearing-impaired and visually-impaired students. The sample (N = 250) was comprised of 64 hearing-impaired, 74 visually-impaired, and 112 non-impaired children (8 - 15 years old; mean age = 11.63 years). In addition, the

participant pool was diverse in terms of gender (118 boys, 132 girls), ethnicity (108 African Americans, 142 European Americans), and location of residence (116 city, 134 suburban).

The PHCSCS and a Q-sort procedure was used to assess student self-concept. The Q-sort procedure required students to rate self-satisfaction by arranging 15 cards containing certain characteristics (e.g., happy, smart) into 5 piles ranging from *most like self* to *least like self*. First, students sorted the cards according to how they thought they actually were (actual), then according to how they would like to be (ideal). The amount of discrepancy between actual and ideal sorts determined the degree of satisfaction or dissatisfaction with self in the specific area (Loeb & Sarigiani, 1986).

Univariate ANOVA and Scheffe procedures conducted on PHCSCS and Q-sort data revealed a significant main effect related to disability type. Results showed that visually-impaired children had higher self-concepts (M = 60.42) than did those in the hearing-impaired group (M = 56.02), and only slightly lower than did those in the nonimpaired group (M = 61.72), F (2, 243) = 6.30, $p < .005$. However, no significant correlations were observed between self-concept

and disability severity (r = -0.12; Loeb & Sarigiani, 1986).

Obiakor: 1986

Obiakor (1986) selected a sample of 290 normally-sighted and visually-impaired students (6th - 8th grades) for a study comparing the development of self-concept between the two groups. The visually-impaired group was comprised of students from schools for the visually handicapped in New Mexico, Arkansas, Illinois, and Nebraska. Participants had no other mental or physical impairments. Non-impaired student were randomly selected from three public schools in a school district of New Mexico. Level of intelligence, achievement, and ethnicity were not considered in sample selection.

The sample was first separated into 3 groups and then given the SSAI. The Type 1 group (n = 153 normally-sighted students) were given a printed version (General Form) of the SSAI. The Type 2 and Type 3 groups (from 6th and 8th grades only) included 76 normally-sighted students and 61 visually-impaired subjects, respectively. The Type 2 and Type 3 groups were given the oral version (Visually Impaired Form) of the SSAI (Obiakor, 1986).

Obiakor (1986) evaluated each measure of self-concept using a 2-way factorial ANOVA, which revealed significant results for 6 of the 12 measures of self-concept for group main effect as related to self-concept differences between normally-sighted students and visually-impaired students. Significant results were found for physical maturity (self-knowledge, self-ideal), academic success (self-knowledge, self-esteem), and school adaptiveness (self-knowledge, self-esteem), F (2, 282) = 4.30, 11.15, 16.21, 15.74, 6.53, and 3.80, respectively; df = 2/282, $p < .05$).

These analyses revealed minor differences among self-concept across the three groups. In addition, the notion that visually-impaired children also have impaired self-concepts was unsupported. In fact, the impaired students sometimes scored higher than did those with normal sight. These findings also suggest that self-concept is area-specific, rather than global in nature. An ANOVA was also performed on the main effect for grade and showed no significant discrepancies in self-concept development for differenc grade levels, and any slight differences in self-concept development were unrelated to grade level (Obiakor, 1986).

Johnson and Johnson: 1991

Johnson and Johnson (1991) investigated the degree to which group therapy affected the self-concept of adolescents who had a congenital visual impairment. Participants were 10 male and 4 female adolescents (12 - 18 years of age) who were placed in experimental and control groups. Ten participants were European Americans, and 4 were African Americans. Their IQs ranged from 89 to 139. Each had been visually impaired at birth or during early childhood, and all but 1 had some degree of usable vision. Control and experimental group subjects were matched as nearly as possible as to age, intelligence, ethnicity and gender.

Group counseling sessions focused on improving self-perception, independent living skills, assertiveness, friendships, and familial relationships. Pre- and post-treatment evaluations were conducted to determine if changes in self-concept had occurred. The TSCS was used to assess self-concept. Participants also completed the Attitudes Toward Blindness Scale (Cowen, Underberg, & Verillo, 1958) to assess general attitudes and feelings, and the North Carolina Internal-External Scale-Short Form (Salter, 1979) to assess the degree of perceived control

the respondent has within his or her environment (Johnson & Johnson, 1991).

Results of *t* tests demonstrated that the self-concept of the experimental group was significantly higher than was that of the control group ($t = 9.28$, $p < .0001$). Experimental group results with respect to attitudes toward blindness and an internalized locus of control were significantly improved as well ($t = 6.78$, $p < .0001$, and $t = 4.07$, $p < .0015$, respectively). Although significant, the findings of this study may lack sufficient reliability and validity due to the inherently lower statistical power of *t* tests and the relatively small sample size for each group (Johnson & Johnson, 1991) available for the research groups.

Beaty: 1991

Beaty (1991) studied a group of sighted and visually-impaired adolescents selected from students in Chicago area public schools. Participants ranged from 12 to 19 years of age ($M = 15$ years) and were approximately equal in terms of gender representation. The final sample ($N = 30$) was randomly chosen from an original group of 40 students who had completed the TSCS. Sighted students were given the test in standard printed form, while visually-impaired

students used Braille, large print, or audio recordings of TSCS. The sample was then divided into two groups of 15 students.

Results were obtained by using a one-way ANOVA to detect significant differences in group means. Separate ANOVAs were calculated for the TSCS Total Positive Score as well as for five subscale scores, and the omega-square statistic was used to determine the strength of association between dependent and independent variables. Findings revealed that the global self-concept of the visually-impaired group was significantly lower than that of their sighted counterparts as reflected in the TSCS Total Positive Score, F (1, 29) = 7.67, $p < .01$). Significant differences were also noted with regard to TSCS subscales related to the moral/ethical self and the family self, F (1, 29) = 6.00, $p < .05$, and F (1,29) = 8.59, $p < .01$, respectively. No other significant differences were found. Omega-square statistics revealed that the degree of association between the independent (visual status) and dependent (self-concept) variables was moderate on total positive scores as well as on subscale scores (Beaty, 1991).

Alexander: 1996

Alexander (1996) compared self-concept between two groups of visually-impaired children. The sample consisted of 20 students (8 - 11 years of age) in the 3rd through 5th grades at Tennessee School for the Blind. One group was enrolled as boarding students (n = 10), and the other group were students in the regular day-class program (n = 10). The 7 boys and 13 girls met a legal definition of blindness, ranging from 20/200 visual acuity to light perception. Twelve used Braille media for reading, whereas 8 were able to use printed materials.

Participants completed the PHCSCS, chosen because it is age-appropriate and is administered orally. Alexander (1996) also compared the groups' self-concept scores with the non-visually-impaired PHCSCS norm group. Another comparison was made between the day student group and the residential student group. Each medium of reading (Braille, print) was also considered as an independent variable. All participants were pre-tested, divided into groups by grade level, and underwent weekly self-esteem training exercises for a period of 18 weeks. Participants were subsequently retested with the PHCSCS to assess changes that may have

been brought about by the self-esteem training (Alexander, 1996).

Results showed that none of the participants had a low self-concept as indicated by comparing the range of raw scores to the PHCSCS norm group. A 2 X 2 ANOVA revealed no significant differences for either reading medium or type of academic placement (Alexander, 1996).

Caution should be exercised, however, when attempting to generalize these results for several reasons. First, the small sample size makes generalization of Alexander's (1996) findings questionable at best, as does the single source and geographic region from which participants were solicited. Second, no PHCSCS normative data for use with the visually-impaired was available. Finally, the definition of self-concept, as set forth in this paper, is not specifically addressed by the PHCSCS. Its apparent blending of personal valuation and personal beliefs about the self limit the interpretability of these test results.

Martinez and Sewell: 1996

Martinez and Sewell (1996) conducted a study that included 38 adult students (19 visually-impaired, 19 non-impaired) in a mainstreamed environment at the University of North Texas (UNT). Participants were matched as closely

as possible as to age and gender, and there were no significant differences in participants' level of intellectual functioning as extrapolated from a two-subtest short form (see Sattler, 1990) of the Wechsler Adult Intelligence Scale-Revised (Wechsler, 1981). The sample included 16 women (42.1%), who ranged in age from 19 to 36 years, and 22 men (57.9%), who ranged in age from 20 to 36 years. In terms of ethnic diversity, the group was predominantly European American, with only 2 Hispanic women and 1 African American man participating in the study.

Visually-impaired participants were selected from a group of 28 UNT students who were receiving services from the university's Office of Disability Accommodations. Their vision difficulties varied widely. Six participants had visual acuities of less than 20/70 to less than 20/90, and 13 individuals who were classified as legally blind (i.e., visual acuity < 20/200 or a visual field/arc < 20 degrees). Individuals in the control group were enrolled in various psychology courses, 12 of whom received extra credit for participating in the study (Martinez & Sewell, 1996).

The TSCS, administered via audiocassette recording to all participants to maintain uniform presentation, was used to measure self-concept. Visually-impaired persons were

provided means for responding that allowed privacy equal to that of non-impaired persons. For example, if an individual used a scribe to record responses, headphones were provided so the scribe could not hear the test items to which the subject was responding. Perkins Braille Writers could also be used to record answers, and all responses were later transferred to TSCS answer forms (Martinez & Sewell, 1996).

Results of the TSCS were then computed using a series of one-way ANOVAs. No significant differences were found between groups on any score ($p < 0.05$), although the Total Positive Score was slightly higher for the control group (Martinez & Sewell, 1996).

The findings of this study should be interpreted with caution due, in part, to the way in which self-concept is characterized by the TSCS (positive vs. negative valuations). Such valuations seem to indicate that self-esteem is embedded in the self-concept construct being measured by the TSCS. As such, validity of the results may need reexamination with greater understanding of the core construct. Also, caution should be exercised in the generalized application of the results because subjects in the study were selected from the UNT only, thus limiting

the applicability of findings to persons in other geographic regions.

Summary

This review has explored research on the degree to which self-concept is affected by visual impairment. The body of literature reviewed spanned nearly 40 years and has yielded a variety of results. Coker (1979) found that, in general, visually-impaired students' self-concepts were positive. In fact, they may have higher self-concepts than their sighted counterparts, although this may be more true in regard to area-specific self-concept (Obiakor, 1986). Furthermore, these students' self-concept does not seem to be affected by any particular type of academic placement (Alexander, 1996; Head, 1979, 1980).

Although a number of researchers (Alexander, 1996; Head, 1979, 1980; Jervis, 1959; Martinez & Sewell, 1996; Zunich & Ledwith, 1965) found little difference between the self-concept of visually-impaired students and that of normally-sighted students, some findings indicated that there was a significant difference. Loeb and Sarigiani (1986) found that sighted persons had a slightly higher self-concept than did visually-impaired students; however,

the visually-impaired students scored better on self-concept than did a group of hearing-impaired students.

Meighan (1971) and Beaty (1991), on the other hand, found that visually-impaired students had a significantly negative self concept compared to sighted students. However, two studies (Locke & Gerler, 1981; Johnson & Johnson, 1991) showed that specific interventions (affective education and group therapy, respectively) may be effective in increasing self-concept.

Finally, Zunich and Ledwith (1965) found significant gender differences in their sample. Visually-impaired girls scored themselves higher than did normally-sighted students in regard to being happy and friendly. However, visually impaired boys scored lower in regard to their perceptions of their own popularity.

Limitations of the Research

The research regarding the effects of vision loss on self-concept has a number of limitations. One major concern in this body of research is the lack of a commonly-held definition of self-concept—either conceptually or operationally—which automatically limits the practical applicability of study findings. Several terms were used as synonyms for self-concept, which further obscures the

issues as well as precludes the potential for increased understanding of this particular construct.

The choice of test instruments used to measure self-concept was also affected as a consequence of nebulous definitions of self-concept. Instruments were based on inconsistent theories regarding self-concept, which also affected how it was measured. In the literature reviewed, global self-concept was often incorporated with self-esteem and used interchangeably, which introduced additional cloudiness rather than elucidating the construct being measured.

In many cases, the studies measured global self-concept, whereas at other times the focus was more narrow or area-specific in nature. For example, the TSCS provides a more global view of self-concept, whereas the SSAI provides a narrower focus that evaluates specific areas of academic functioning.

Some instruments were supported by normative data and good concurrent validity, whereas others had not been normed or standardized. In one instance a "proprietary" assessment tool (e.g., semantic differential scale) was used as part of self-concept evaluation and was apparently created for the specific study within which it was used

(Smith, 1972). Use of a nonstandard or norm-referenced instrument again limits the reliability and validity of the research results obtained. Furthermore, the reliability of findings may have been questionable since the scales used were primarily self-report measures.

Additional constraints are inherently part of this field of study due to the low incidence of visual impairment among children and adolescents as well as differences in actual levels or descriptions of vision functioning.

The studies reviewed also failed to take into account variations in social integration between individuals who are partially-sighted and those who are totally blind. In all but a few cases, specific details of subjects' visual acuity and field were not addressed, and little or no explanation was given regarding the circumstances under which sight was lost. These issues may have presented the impaired individual with psychosocial stressors that played a significant part in the development of his or her self-concept. Such potentially confounding variables also render research an even more arduous task than it already is.

Participants were drawn from educational settings in several regions across the United States, which may have

increased the validity of results. However, the use of instruments not founded on a clear understanding of the core theoretical construct may have undermined the usefulness of outcome data. This investigation of the self-concept literature has revealed that care must be exercised when attempting to generalize results to the broader population.

Suggestions for Future Research

Conducting empirical research in the area of visual impairment and self-concept has proven difficult for those willing to brave such a task. The limitations encountered in the basic understanding of self-concept, test instrumentation, and problems acquiring appropriate participants make such research troublesome. Nevertheless, the body of research reviewed herein is helpful in comprehending the shortcomings in an understanding of self-concept. Continued research is, therefore, necessary and crucial to the process of developing a clear definition of the term.

Consistent and concise terminology would provide the basis for the refinement of current instruments or the development of new ones. Future studies addressing issues relevant to visually-impaired persons will no doubt

continue to present challenges to researchers. The circumscribed environments within which such individuals are found and the small number of subjects available will continue to present complexities, particularly in terms of the generalizability of findings.

To summarize, future research should include the development of a clear and unambiguous definition of self-concept. The definition needs to be specific in identifying beliefs/perceptions held by the individual toward the self thus eliminating the wide variability of terminology and intermingling of similar constructs (e.g., self-esteem) which have been used somewhat loosely and synonymously with self-concept. The creation of a well-normed and standardized instrument based on a standardized definition of self-concept is necessary to increase the validity and reliability of results. The establishment of these standards is essential for all future studies on self-concept whether or not the research examines this construct as it relates to those with disabilities.

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